

**REMARKS**

Claims 37 - 46 are pending in the present application. Claims 1 – 36 and 47 – 50 were previously canceled.

On 21 JUN 2005, Applicant and Examiner Zec held a teleconference. Applicant thanks Examiner Zec for making time for the teleconference.

In the Office Action, claims 37 – 46 are rejected under 35 U.S.C. 103(a) based on the disclosures of several combinations of references. All of these rejections include a combination of U.S. Patent No. 5,843,209 to Ray et al. (hereinafter "the Ray et al. patent") and U.S. Patent No. 4,786,301 to Rhodes (hereinafter "the Rhodes patent"). Additionally, claims 37 – 46 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 26 of U.S. Patent No. 6,539,728 to Korin (hereinafter "the Korin patent").

The application contains one independent claim, namely claim 37. During the aforementioned teleconference, **Examiner Zec and Applicant agreed that:**

- (1) claim 37 is patentably distinguishable over the presently cited combination of the Ray et al. patent and the Rhodes patent;
- (2) if Examiner Zec maintains the double patenting rejection in the next office action, Examiner Zec will specify which claim of the Korin patent claims the same invention as claim 37; and
- (3) with the next office communication, Examiner Zec will include a form PTO-892 that lists the Korin patent.

Below, Applicant is summarizing several points that were discussed during the teleconference.

Claim 37 provides for a system for pumping thermal energy. The system includes, *inter alia*, a heater for heating a liquid, wherein the system transfers a quantity of thermal energy from the heater to a resultant vapor.

As mentioned above, all of the section 103(a) rejections are based on a combination of references that includes the Ray et al. patent and the Rhodes patent.

The Ray et al. patent is directed toward a system for selective removal of a vapor from a fluid feed stream (Abstract). The Office Action recognizes that the Ray et al. patent does not include a disclosure or suggestion that the system transfers a quantity of thermal energy from a heater to a resultant vapor, as recited in claim 37. Accordingly, the Office Action introduces the Rhodes patent.

The Rhodes patent is directed toward a system that uses a desiccant material that adsorbs moisture (col. 1, lines 8 – 10), and uses solar energy or some other energy source to regenerate the desiccant material (col. 1, lines 11 – 14). FIG. 1 shows that the system includes a desiccant bed 50. A heat transfer fluid is circulated from a hot tank 65 during a desorption cycle (col. 13, lines 33 – 39). The heat energy for maintaining water in hot storage tank 65 at a desired regeneration temperature is derived from solar collectors 68 (col. 13, lines 43 – 48).

The Office Action suggests that the Rhodes patent's disclosure of solar collectors 68 is descriptive of the heater of claim 37. As a preliminary point, Applicant wishes for the Examiner to note that the system in the Rhodes patent is an alternating process, i.e., a process that alternates between adsorption and regeneration of desiccant bed 50. Hot tank 65 and solar collectors 68 are utilized only to facilitate the regeneration of desiccant bed 50. In contrast, the system of claim 37 is a continuous process, and does not require any regeneration. Thus, **the technology of the Rhodes patent is non-analogous to that of claim 37**, and so, the Rhodes patent cannot be asserted in a section 103(a) rejection of claim 37.

Also, whereas in the Rhodes patent solar collectors 68 heat a transfer fluid that is circulated from hot tank 65 during a desorption cycle, the heat from solar collectors 68 is not transferred to a resultant vapor. Thus, there is no disclosure or suggestion that the system transfers a quantity of thermal energy from a heater to a resultant vapor, as recited in claim 37. Consequently, **the Ray et al. patent and the Rhodes patent**, whether considered independently or in combination

with one another, **neither disclose nor suggest** a heater for heating a liquid, wherein the system transfers a quantity of thermal energy from the heater to a resultant vapor, as recited in claim 37.

Furthermore, the system in the Ray et al. patent does not utilize a desiccant material. Thus, in the Ray et al. patent there is no motive or suggestion of a need for solar collectors 68 and hot tank 65 of the Rhodes patent for providing energy to regenerate a desiccant material. Moreover, a modification of the system of the Ray et al. patent to employ solar collectors 68 and hot tank 65 for providing energy to regenerate a desiccant material would require a change in the principle of operation of the Ray et al. patent. Consequently, the cited combination of the Ray et al. and Rhodes patents is **improper for purpose of a 103(a) rejection**. This deficiency cannot be corrected by combining a further reference with the Ray et al. and Rhodes patents.

Applicant respectfully requests reconsideration and withdrawal of the section 103(a) rejections.

As for the double patenting rejection, the Korin patent contains six independent claims, namely claims 1, 22 – 26, all of which include a membrane permeator for selectively removing vapor from a gas to yield a dry-gas. Thus, the claims of the Korin patent each recite a combination of a membrane permeator external to a heat pump. The membrane permeator is not a part of the heat pump, but instead is used for removing vapor from the gas prior to the gas entering the heat pump.

In claim 37, in contrast with the claims of the Korin patent, a membrane permeator introduces a heated vapor into a heat pump. The membrane permeator is used within the heat pump, and as such, the membrane permeator constitutes an integral part of the heat pump. Accordingly, Applicant submits that claim 37 is patentably distinct from claims 1 – 26 of the Korin patent.

Reconsideration and withdrawal of the double patenting rejection are respectfully requested.

The Office Action does not explain how the claims of the Korin patent are being interpreted as claiming the same invention as the claims of the present application. Accordingly, Applicant requests that if Examiner Zec maintains the double patenting rejection in the next office action, Examiner Zec specifies which claim of the Korin patent claims the same invention as claim 37.

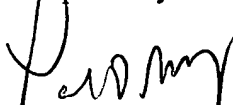
Also, although the Examiner cited the Korin patent in the double patenting rejection, the Korin patent is not yet listed on a form PTO-892. Applicant respectfully requests that with the next office communication, Examiner Zec includes a form PTO-892 that lists the Korin patent.

In view of the foregoing, Applicant respectfully submits that all claims presented in this application patentably distinguish over the prior art. Accordingly, Applicant respectfully requests favorable consideration and that this application be passed to allowance.

Date

7/7/05

Respectfully submitted,



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